**RSVP Project Directors Report for August 2004**

In August, an agreement with the National Science Foundation was reached that defined expectations for presentation of a project "product" in May 2005. This product will include results from the series of reviews being scheduled for all three project entities: the two experiments – KOPIO and MECO – and the Alternating Gradient Synchrotron (AGS). A project timeline through spring 2005 was developed by the Project Office, consisting of an intensive series of reviews aimed at vetting all aspects of the project – scientific, technical, budgetary, schedules, resource needs, etc. – in an effort to optimize project convergence. A final timeline draft was developed, and a meeting established for September 13 at Brookhaven with Willis, Kotcher and Firestone from the Project Office; Goldberg representing the NSF; Hebert, Marx, and Pile from the experimental and AGS project offices; and those experiment spokespersons that are able to attend (Bryman and Zeller by phone, Littenberg in person). The primary topic of discussion at this meeting will be the timeline. In addition, a pre-meeting was scheduled between Willis, Kotcher, Goldberg, and Firestone at Columbia University for September 7, at which current RSVP related issues will be assessed, and action items identified.

The proposed timeline includes reviews of three primary systems this calendar year. The first review – that of the technically exacting MECO multi-solenoidal magnet – will be held on October 10-12 at Columbia University. It will be reviewed by the Magnet Oversight Group (MOG), recently formed by the RSVP Project Office, which consists of an international team of renowned magnet experts chaired by Tom Taylor of CERN (see July report for further discussion of the MOG members). The next primary reviews will be of the proposed AGS upgrades and improvements, scheduled for November 4-5, and an in-depth review of simulations and backgrounds on November 15-17, which provide the underlying basis for design specifications and choices. These latter two review committees are in the process of being assembled. In addition, this final timeline draft includes a one-day discussion in early December (Dec 9) on the resource loaded schedules, budget, and resources, attended by the RSVP principals (Project Office, NSF Program Manager, Project Managers, and experiment spokespersons). An extensive review of these schedules will then be held in mid- January (Jan 13-14). Discussions are underway with the BNL Associate Director for HENP, Tom Kirk, in which the Laboratory Oversight Group might perform this important review. A series of milestones follow in CY2005, including a series of reviews of other sub-detectors, final drafts of technical and project management documentation, and a review of AGS operations, culminating in a Project Startup Review in mid-April and final preparation of documentation for May submission. After discussion at the September 13 meeting and integrating comments and concerns from the principals, this timeline will be finalized and provide the project-wide target dates.

Project tools have been established and finalized: Microsoft Project and ACCESS will be used, and a new web-based system will be developed with the latter in order to facilitate off-site, project-wide financial tracking and updates. These tools have been successfully in use at BNL for some time for U.S. ATLAS, and the associated expertise is available to assist at all levels as the projects begin developing these crucial project elements. A

WBS structure for the project was decided upon and work begun in constructing the resource loaded schedule. Weekly meetings between the Project Managers – Hebert (MECO), Marx (KOPIO), Pile (AGS) – and the Deputy Project Director (Kotcher) were scheduled at which progress on these schedules are being directed and discussed. Other relevant issues, such as technical progress and problems, financial issues, personnel needs, target dates, etc., are discussed here as well.

To prepare for the simulation review, the KOPIO experiment has set up a Simulation Task Force that has made significant progress in enhancing the KOPIO signal, and in the understanding and suppression of backgrounds. In order to disburse the FY04 funds, KOPIO is preparing Memoranda of Understanding (MoU) and Statements of Work (SoW) that are being negotiated with several groups, including Yale, TRIUMF, IHEP, INR, and BNL. Cost and schedule estimates are being prepared by all KOPIO subsystems. At the University of California, Irvine, MECO has developed a pre-conceptual design of the RF Modulated Magnet that has evolved to the point where a WBS for the system can begin to be prepared. Simulations of neutron production in the proton target, the dominant source of beam heating of the superconducting coils for the Production Solenoid, are progressing at both UCI and BNL to sharpen the understanding of the heat loads on that magnet. William & Mary's anticipated test run of scintillator extrusion at Itasca in Illinois has been delayed due to complications in obtaining a license to use the technique pioneered at Fermilab for MINOS. An SoW has been signed with MIT for continued magnet development, including updating the Conceptual Design Report to reflect the results of recent tolerance studies and other changes, conducting a series of small-scale tests of perceived high-risk magnet systems, and managing the Request for Proposal process. Similarly, an SoW has been signed with the University of Houston for the modest amount of money presently available for Tracker development and partial Education/Outreach support. SoW's for both KOPIO and MECO work at BNL, both in the physics department and the Collider-Accelerator Division, are well underway and are expected to be in place next month. This will support efforts by liaison personnel, engineering support, beamline development and associated tests for KOPIO, an accelerator physicist for beamline optical design (MECO), and conceptual designs of elements of the muon beamline in direct contact with the critical path solenoids for MECO.

The AGS project office has begun weekly meetings aimed at confronting cost and schedule issues for the RSVP AGS Infrastructure WBS. This includes infrastructure for the experiment beamlines and experimental areas as well as modifications and upgrades to the Booster and AGS accelerators and beam switchyard necessary for high intensity operation concurrent with RHIC operation. Three such meetings were held in August. These meetings were attended by members of the C-AD as well as representatives of each experiment. The C-AD is in the process of re-doing its cost estimates for RSVP and are working toward the generation of resource loaded schedules. Work in August was for the most part aimed at identifying all work to be done for each AGS infrastructure WBS element and determining how interfaces with the experiments are going to be handled.

Work continues toward integrating broader BNL personnel into RSVP, including utilizing expertise in the Physics Department for development of budgets and schedules, facilitating transfer of funds through the Office of Intellectual Property, Procurement and other departments/divisions. As mentioned above, MoU's and SoW's continue to be generated by both experiments, the AGS, and the Laboratory in order to continue the disbursement of FY04 funds received at NYU over the summer. In addition, a monthly meeting has been established between BNL Director (Chaudhari), the Deputy Laboratory Director Designate (Bond), HENP ALD (Kirk), and RSVP Deputy Project Director (Kotcher) to discuss all relevant RSVP issues at the Laboratory. The first such meeting has been scheduled for September 15.

At Columbia University, space has been designated and prepared for use by RSVP personnel. Preparations are underway to begin hiring project office staff, and additional space intended to accommodate this office has been identified. Preliminary RSVP support work at Columbia – review preparations, budgetary planning and use, space allocations, and other concerns – is being done in this early period with considerable help from the Columbia University Physics Department staff. Discussions have begun with the primary participants at Columbia and BNL to facilitate the transfer of FY05 funds from NSF to Columbia, and from there to Brookhaven, when the FY05 RSVP allocation is determined and authorized.